



John F. Kennedy Space Center

EXPENDABLE LAUNCH VEHICLES

NASA Launch Services

**ESSP Step-2 Proposal Kick-off Meeting
November 15, 2001**

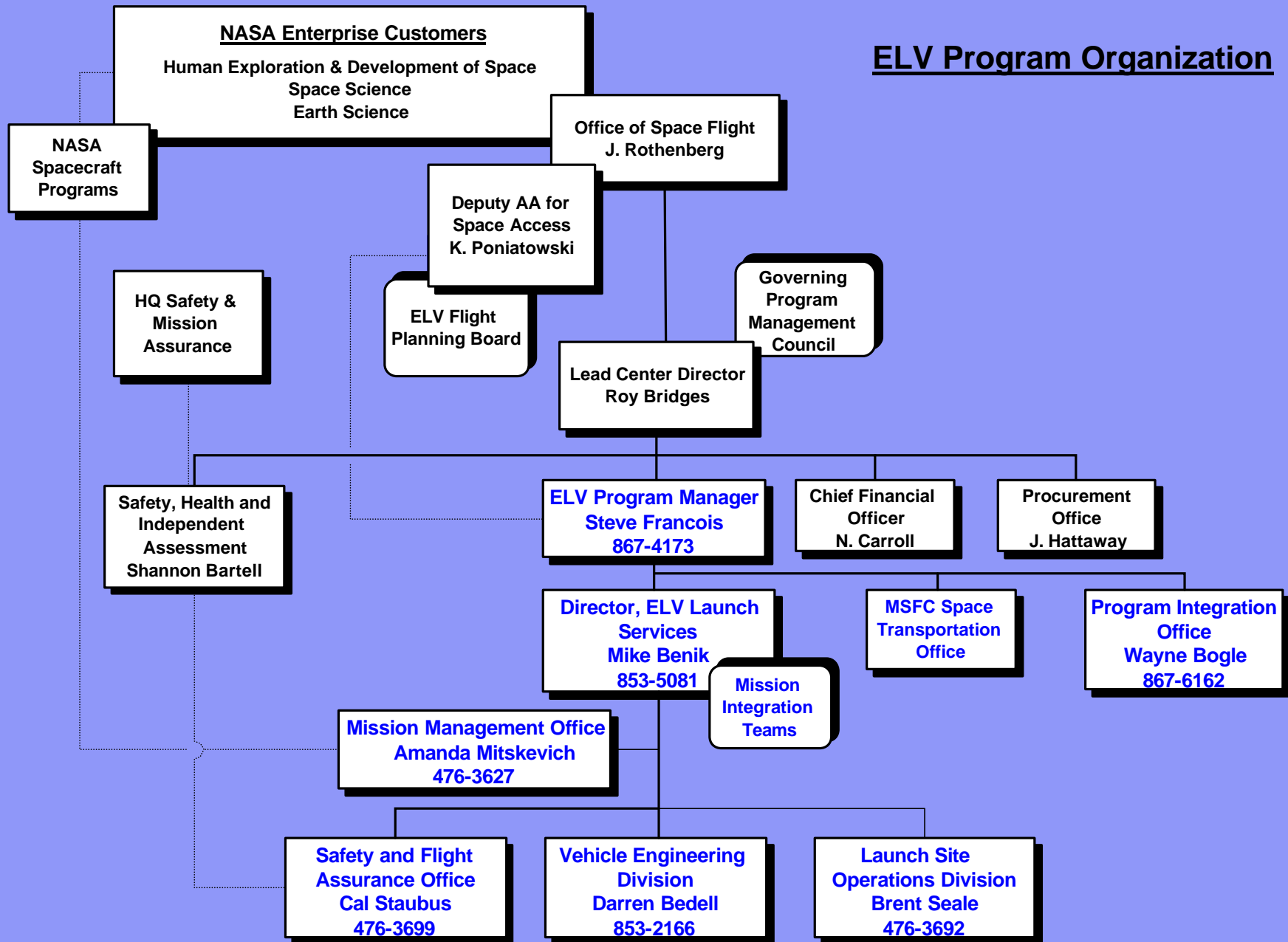
**John Schafer
NASA/KSC/ ELV Launch Services
Mission Management Office**



NASA ELV Program Goals

- Ensure launch service contracts are in place to support approved NASA missions
- Provide Lead Center Program Management (budget, schedule, and technical) for NASA missions utilizing ELV Launch Services
- Provide a successful launch rate at or above 95 percent
- Procure commercial launch services consistent with mission criticality and procurement regulations
- Serve as Agency focal point and repository for ELV databases and advanced mission analyses
- Implement partnerships with other NASA Centers, academia, and industry to create new technological capabilities for lower costs and more reliable access to space

ELV Program Organization





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ELV Advance Mission Planning/Design Support



Advance Mission Planning/Design

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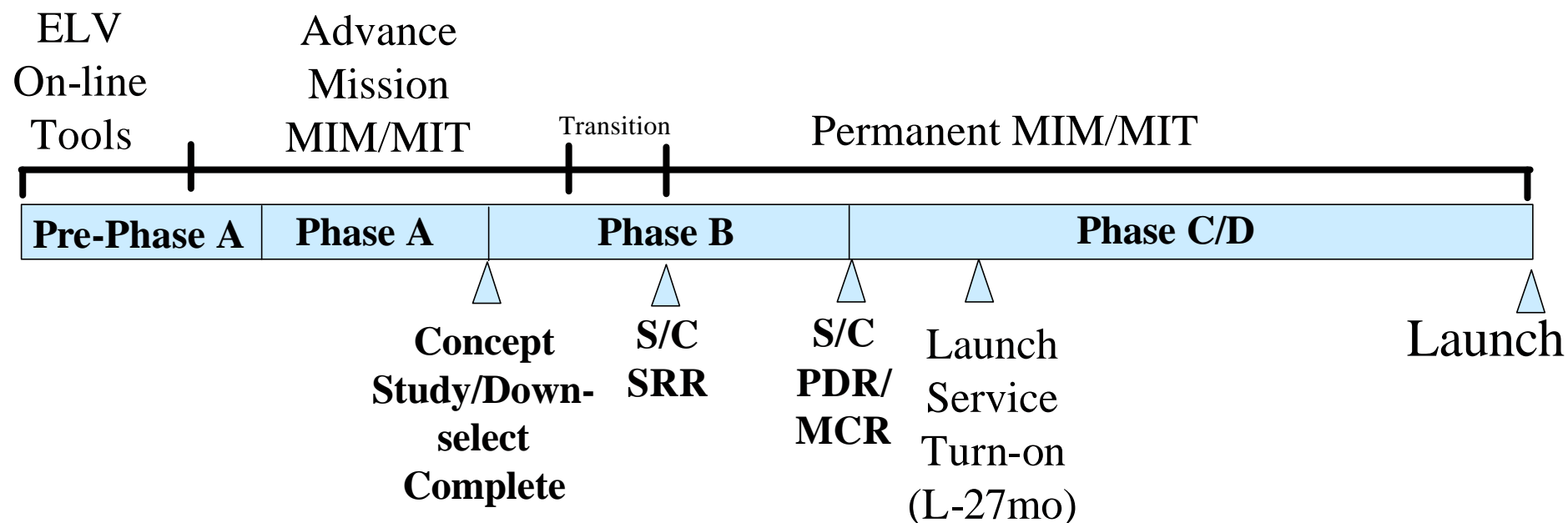
- **Advance Missions Team**
 - Mission Mgmt Office – Lead – Darrell Foster
 - Integration Engineering – Jim Robinson
 - Mission Analysis – Mike Carney
 - Program Integration Office
- **Provide a Focal Point into the ELV Org**
 - Customer Relations and Future Business Development
- **Support to Mission Formulation Team in performing LV trades**
 - Cost & Performance Quotes
 - Directed Missions
 - Potential Missions
 - Agency Initiatives
- **AO development, consultation, and evaluation**
- **Support to Independent Assessment Review Teams**
- **Work with the Launch Service Providers**
 - Future Business
 - Advance Mission Studies
- **Development/maintenance of on-line tools**
 - ELV Performance Web page (<http://elvperf.ksc.nasa.gov>)
 - On-line Planner's Guide (avail. Jan.'02 – <http://elvppg.ksc.nasa.gov>)



KSC ELV Involvement in Your Mission

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Launch Services Contracts



NASA ELV Contracts

- **KSC Issued Launch Service Contracts**
 - **SELVS-KSC CONTRACT:** Small Expendable Launch Vehicle Services, NAS10-99005
 - Launch Service Contractor: Orbital Sciences Corporation
 - Type of Launch Service: Pegasus XL, Taurus
 - **NLS CONTRACT:** NASA Launch Services (NLS), NAS10-00-001
 - Launch Service Contractor: Delta Launch Services, Inc. (Boeing)
 - Type of Launch Service: Delta II, III, and IV
 - **NLS CONTRACT:** NASA Launch Services (NLS), NAS10-00-060
 - Launch Service Contractor: Lockheed Martin Commercial Launch Services, Inc.
 - Type of Launch Service: Atlas III and V



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Orbital Sciences Corporation

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Pegasus XL



Taurus





Launch Services Cost Figures

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Launch Date: October 2005

Launch Service	FY'03	FY'04	FY'05	FY'06	Total
Pegasus XL (VAFB)	1	16	10	2	29
Pegasus XL (CCAFS)	1	16	10	3	30
Pegasus XL (Equitorial)	1	16	10	4	31
Taurus (VAFB)	1	28	16	4	49
Taurus (CCAFS)	1	28	16	5	50

Assumptions: Included in these estimates are costs for the launch vehicle, a nominal allocation for mission unique requirements, LV telemetry support, and launch site processing. These estimates are in real year dollars assuming a launch in October 2005. Any cost penalties associated with payload caused launch delays are not included in these estimates.



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ELV Advance Mission Planning Support

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